Mesenteric Duodenal Ileus

WARNER M. SOELLING, M.D., Modesto

INTESTINAL OBSTRUCTION due to compression of the horizontal duodenum by the superior mesenteric artery is a well established, but little known, entity. First described in 1861,[5] the condition has been infrequently diagnosed and has come to be regarded as rare. It is briefly mentioned in most textbooks of medicine under the terms *arteriomesenteric ileus, mesenteric artery syndrome, mesenteric root syndrome* and *mesenteric duodenal ileus.* During the past decade there has been a renewal of interest in the syndrome with the publication of a number of case reports, and it has been suggested that the condition may be more common than has been assumed.

The following case is presented to illustrate the mild and chronic form in which mesenteric duodenal ileus may manifest, and the association of weight changes with the development of the syndrome and its remission.

REPORT OF A CASE

A 13-year-old girl was seen in the office because of pain in the right epigastrium of a month's duration. The pain was described as varying between a feeling of fullness and moderate discomfort. It did not radiate and was unrelated to meals, to exercise or to changes in position. There was no nausea or vomiting, and no abnormality of bowel habits. The family reported that the patient had become noticeably plump during the preceding months. They did not know the exact weight gain.

The patient had been troubled by similar symptoms since age 4. Her parents recalled her becoming easily fatigued and being unable to keep up with her playmates and had attributed her pains to this excessive fatigue. They had never noted any constipation or any association of the discomfort with meals. At ages 5 and 7 the pains became sufficiently aggravated to cause admittance of the patient to a hospital. During the first hospital stay tonsillectomy was done in the expectation that it might provide a solution. The second admittance to hospital was urged by the family physician, who suspected appendicitis. The consulting surgeon[6] found some spasm of the rectus muscle, more prominent on the right, and mild tenderness upon palpation. His impressions were possible appendiceal irritation and left bronchopneumonia, and he decided against surgical intervention. The patient improved with bedrest and was discharged after three weeks of observation.

Upon physical examination the patient was observed to be well developed, somewhat obese, and apparently in excellent health. The abdomen was soft and non-tender, and no organs or masses could be palpated. The vital signs and other physical findings were within normal limits, as were the results of routine urine and blood examinations. The impression was that the patient had functional intestinal spasm, and Thorazine Spansules® (chlorpromazine), 75 mg., to be taken on arising and in the early afternoon, were prescribed.

When seen two weeks later, the patient said that she felt worse and her description of the discomfort was unvaried. A mass palpated in the right epigastrium was thought to be a distended intestinal loop. The patient was put in hospital, where she was given a liquid diet and was kept at bedrest. There was prompt subjective improvement and three days later the abdominal mass could no longer be felt. A plain x-ray film of the abdomen at this time showed no distention. Studies of the upper gastrointestinal tract showed a decided delay in the passage of barium in the midline, where the superior mesenteric artery crosses the duodenum; this was totally relieved when the patient was placed in the prone position. It was concluded that the patient's symptoms were referable to a mesenteric duodenal ileus. She was discharged with instructions to resume normal activities, but to eat smaller meals and to assume the knee chest position if the discomfort should return.

There was no recurrence of symptoms in the ensuing 12 months of observation. The parents reported that immediately following the period in the hospital the patient's weight decreased 10 pounds and that she appeared slimmer. In x-ray studies carried out six months later no abnormality of the upper gastrointestinal tract was observed.

DISCUSSION

The symptoms commonly associated with mesenteric duodenal ileus are those of high intestinal obstruction with continued upper abdominal distress, nausea and vomiting and loss of weight[3];

Submitted September 25, 1959.

Cunha and Day[2] said vomiting was present in every case. That the condition can occur in milder form, manifesting in nothing other than epigastric discomfort, is evidenced by the present case.

In contradistinction to the short history in most of the reported cases, the symptoms in the case here reported recurred over a period of ten years; on three widely separated occasions, at ages 5, 7 and 13, they became sufficiently aggravated to require hospitalization. Christian[1] suggested the chronic remittent nature of this condition when he described attacks in childhood with freedom from the age of 12 and 15 years and recurrence in adult life.

A striking correlation between weight changes and alternation of symptoms was manifest in this patient. The exacerbation of complaints was preceded by a pronounced gain in weight, and complete remission followed weight reduction; the existence of the duodenal obstruction and its subsequent disappearance were objectively established by x-ray studies. Cunha and Day[2] described weight changes as common to all patients with the syndrome. They attributed the impingement of the artery upon the duodenum to changes in structural relationships attendant upon alterations in fat deposits in the tissues of the duodenum, mesenteries and retroperitoneal spaces. In the absence of other measures, the improvement in this patient appears to have come about through a reversal of the weight gain which preceded the exacerbation of symptoms.

It would appear that noting a change in body weight in association with this syndrome would be of clinical value. A history of weight gain or loss preceding the onset of symptoms can alert the clinician to the possible presence of this condition. Such a history may further serve to indicate the direction of medical measures for the purpose of reestablishing the patient's weight at the level obtaining before symptoms occurred. The improvement in the patient in the present case suggests the possible effectiveness of this approach. Conceivably, such management may reduce the number of patients requiring surgical intervention.

With regard to the incidence of mesenteric duodenal ileus, the report of Keegan and Tyson[4] of four cases having been diagnosed at one air force hospital within a year's time suggests that the syndrome may not be as rare as has been assumed. It is to be wondered whether less severe forms of this condition might not be the cause of abdominal discomfort in an appreciable number of patients with mild remittent complaints which are never satisfactorily explained. The tendency of the condition to manifest in mild and chronic form, as illustrated in this case, renders recognition problematic since the x-ray studies necessary to the diagnosis are less likely to be done when symptoms are minimal. If clinicians remain aware of the syndrome and consider it in the differential diagnosis of patients with abdominal complaints, it is conceivable that this condition will be diagnosed with greater frequency and become recognized as a more important cause of abdominal discomfort.

SUMMARY

A case of mesenteric duodenal ileus was established by x-ray studies in a 13-year-old girl with a ten-year history of remittent abdominal discomfort. Exacerbation of complaints was preceded by a gain in body weight and remission followed a loss in weight.

1112 Ulrich Ave., Modesto.

REFERENCES

1. Christian, H. A.: The Principles and Practice of Medicine, ed. 16, New York, D. Appleton-Century Company, Inc., 1947, p. 685.

2. Cunha, F., and Day, B.: Duodenal stasis caused by an aberrant superior mesenteric vessel, Am. J. Gastroenterol., 21:121, 1954.

3. Palmer, W. L.: Diseases of the Duodenum. In Cecil, R. L., and Loeb, R. F.: Textbook of Medicine, ed. 8, Philadelphia, W. B. Saunders Company, 1951, p. 718.

4. Tyson, W. T., Jr., and Keegan, J. M.: Duodenal obstruction due to compression by superior mesenteric root, J.A.M.A., 165:1665-1668, Nov. 1957.

5. Von Rokitansky, C. F.: Lehrbuch der Pathologischen Anatomie, ed. 3, Vienna, W. Braumuller, 1955-1861.

6. Wamsteker, H.: Personal communication to the author.

Congenital Esophageal Stenosis

MORRIS M. CULINER, *M.D.*,
JOSEPH KUSHNER, *M.D.*, and
MORRIE MINK, *M.D.*, San Francisco

THE CONGENITAL tracheoesophageal fistula complex is an unusual anomaly of newborn infants. Esophageal stenosis without fistula is quite rare; very few reports of it appear in the literature. Humphreys and co-workers[3] reviewing 136 cases of esophageal anomalies, noted only one case of esophageal stenosis without fistula. Without fistula, stenosis generally does not require emergency therapy, for unless there is esophageal communication with the tracheobronchial tree, aspiration pneumonia is unlikely. When the obstruction is incomplete and liquids can pass, frequently the first manifestation occurs when solid foods are added to the diet.

Gross[1] reviewed 38 cases of congenital esophageal stenosis from the records of the Boston Children's Hospital. In half the cases the stricture was in the middle third of the esophagus, in a fourth of cases it was in the upper third and in a fourth in the lower third. Gross indicated that repeated dilatation gave complete relief in most cases and stated that one child had 91 dilatations over a 14-year period. However, in recent years he has treated five patients (aged three months, ten months, sixteen months, ten years and eleven years) by resection and end-to-end anastomosis. His present plan of therapy for these patients would seem to be summarized by his statement "the results [of resection] have been so gratifying that we believe that any congenital esophageal stenosis which does not seem to be yielding after a

Submitted October 16, 1959.